User Manual

3D PDF Converter for Revit® 14

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The manual and the program have been thoroughly checked for errors. However, 3DA does not claim that either one is completely error free. Errors and omissions are corrected as soon as they are detected. The user of the program is solely responsible for the applications. We strongly encourage the user to test the correctness of all calculations at least by random sampling.

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Adobe® Acrobat® X, XI Pro is a registered trademark of Adobe® Systems, Inc. 3D
PDF for Revit® is a registered trademark of 3DA Systems Inc.
Windows® is a registered trademark of Microsoft Corporation.

3D PDF For Revit® and 3D PDF Converter for Revit® are registered trademarks of 3DA Systems Inc. and 3Dasystems.com

3D PDF for Revit® 2014
The program "3D PDF for Revit® 2014" is a product of 3DA Systems Inc. Tel.
250-383-9981
Email: info@3Dasystems.com

Homepage: www.3DAsystems.com

3D PDF for Revit® 2014 is an integrated software running within the Revit® environment that enables users to publish rich and interactive 3D PDF files. The software has been designed to work as an "ADDIN" or "Plug-in" within the program Autodesk Revit® 2014. The software is intended to work with Revit® Architecture, MEP; Structure and is a registered trademark of Autodesk® Inc.,

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Getting Started

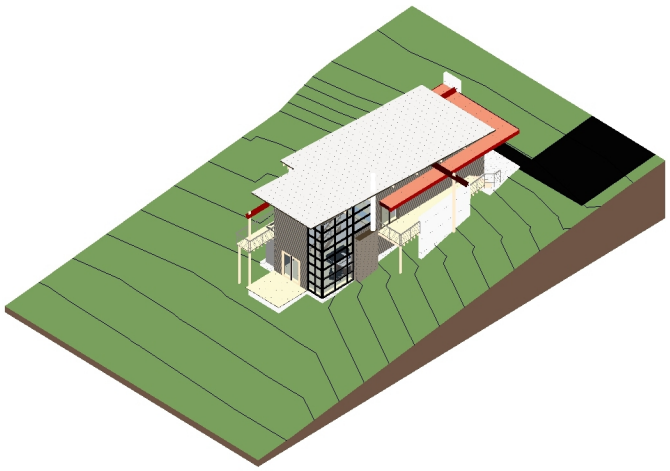
Welcome to 3D PDF converter for Revit®2014

3D PDF Converter for Revit® 2014 is the easy-to-use program that lets anyone convert information-rich 3D models from Autodesk Revit® 2014. 3D PDF Converter for Revit® 2014 automatically converts the full 3D model from the 3D view port with ease.

Its unique, built-in 3D Adobe technology and library lets you pick professional looking schemes and textures from your model with the click of a mouse Revit®, and also provides a limited selection of ready-made AEC Templates.

3D PDF Converter for Revit® works as a stand-alone program, and as part of Adobe® Acrobat® and Autodesk Revit® programs that support object geometry and PRC Embedding.

You can insert a 3D PDF for Revit® models directly into Microsoft Word for Windows, using the "Add 3D" command in Adobe Acrobat XI Pro.



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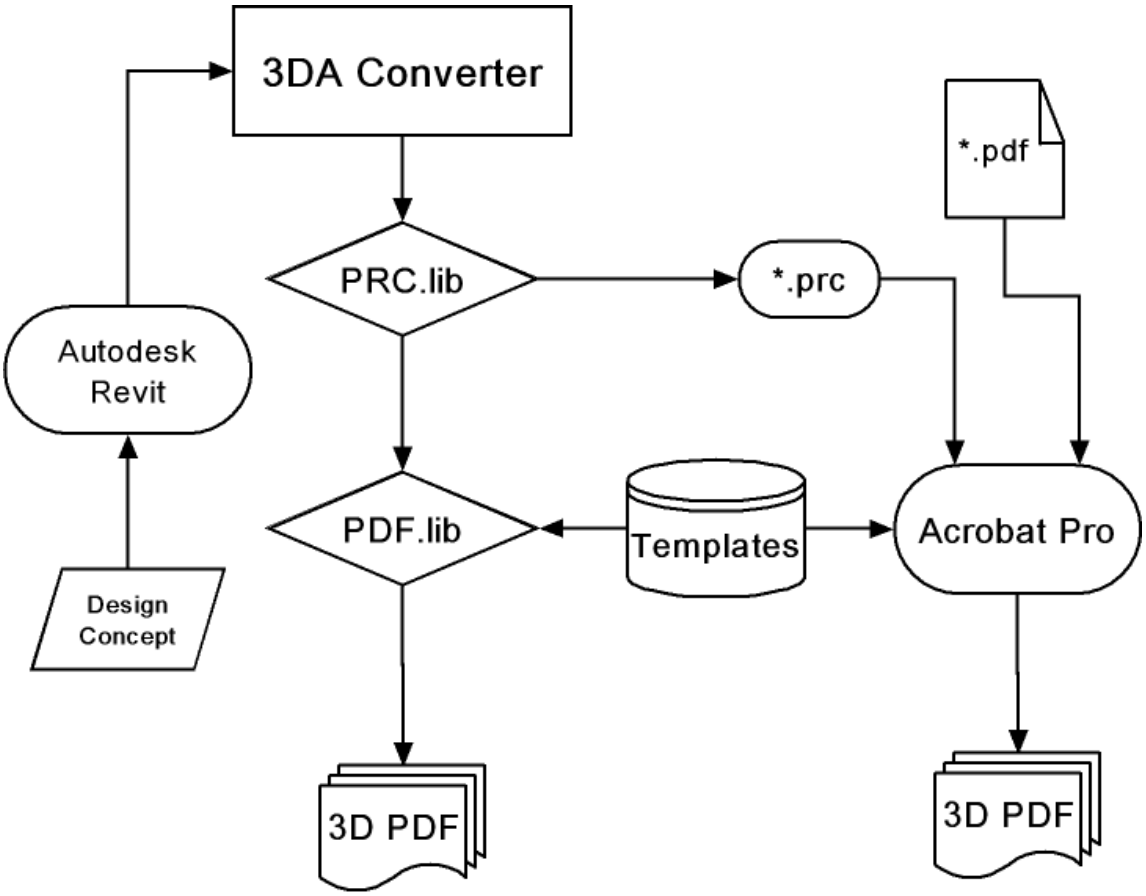
3D PDF for Revit®2014

This is the 2014 edition of 3D PDF for Revit®. It is a 32-bit Windows application and requires a Pentium (or better) system running Microsoft Windows 95, 98, NT 4.0, 2000, XP or later.

3D PDF for Revit® comes with a Standard Collection of AEC Title block and presentation templates:

- New 3D JavaScript Enabled Title Block Style Templates*
- New 3D JavaScript Enabled Presentation Style Template*
- Add Company logos to your 3D Title Block*
- New Document Description Fields
- New Template Style Options
- New 3D Poster Image Options

Figure 1 Program Workflow Diagram



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Chapter 1:

Installation and activation of 3D PDF Converter for Revit®2014

Internet Download

You can freely download 3D PDF Converter for Revit® 2014 Trial Edition from www.3DAsystems.com or the Autodesk Exchange App Store;
Your must have Revit® 2014 installed to use 3D PDF Converter for Revit® 2014.

You can also download full (purchased) version of 3D PDF Converter for Revit® 2014. In either case, the file you download to your computer is an install program.

You must run the download .exe file to install 3D PDF Converter for Revit® 2014. The simplest way to do this is to download the file to your desktop or Temp directory. This creates an icon within your Revit® application and your Start menu of MS Windows. You can then run the install program by clicking on the icon in "Add ins" within Autodesk® Revit®.

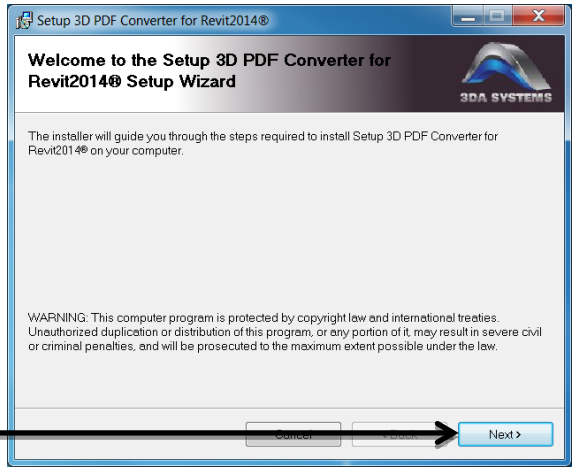
Welcome to the Setup

The first time you run the program you are presented with the *Welcome Dialog* - before you can run 3D PDF Converter for Revit® 2014, you must first install it by running the Setup Program.

There are two ways you can obtain this file:

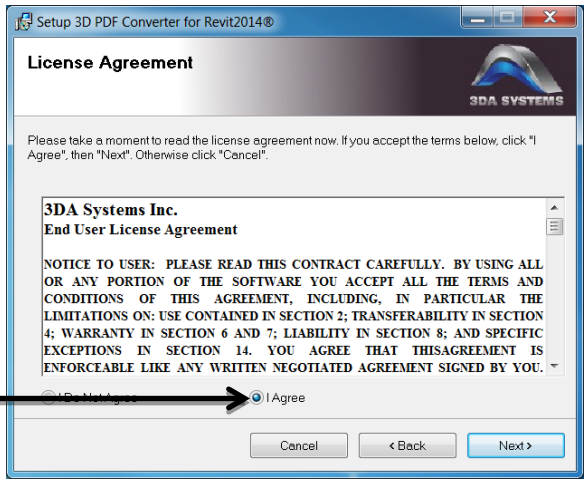
- By downloading from 3DA Systems website
- By downloading from Autodesk Exchange App Store

After downloading and executing 3D PDF Converter for Revit® 2014, follow the prompts from the welcome screen and click "Next" to continue.


Setup 3D PDF Converter for Revit2014®
Welcome to the Setup 3D PDF Converter for Revit2014® Setup Wizard
3DA SYSTEMS
The installer will guide you through the steps required to install Setup 3D PDF Converter for Revit2014® on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Next ›

License Agreement

Please take a moment to read and accept the "End User License Agreement" to continue. You will be required to "Agree" to continue installing the program.


Setup 3D PDF Converter for Revit2014®
License Agreement
3DA SYSTEMS
Please take a moment to read the license agreement now. If you accept the terms below, click "I Agree", then "Next". Otherwise click "Cancel".
3DA Systems Inc.
End User License Agreement
NOTICE TO USER: PLEASE READ THIS CONTRACT CAREFULLY. BY USING ALL OR ANY PORTION OF THE SOFTWARE YOU ACCEPT ALL THE TERMS AND CONDITIONS OF THIS AGREEMENT, INCLUDING, IN PARTICULAR THE LIMITATIONS ON: USE CONTAINED IN SECTION 2; TRANSFERABILITY IN SECTION 4; WARRANTY IN SECTION 6 AND 7; LIABILITY IN SECTION 8; AND SPECIFIC EXCEPTIONS IN SECTION 14. YOU AGREE THAT THISAGREEMENT IS ENFORCEABLE LIKE ANY WRITTEN NEGOTIATED AGREEMENT SIGNED BY YOU.
I Agree
Cancel
‹ Back
Next ›

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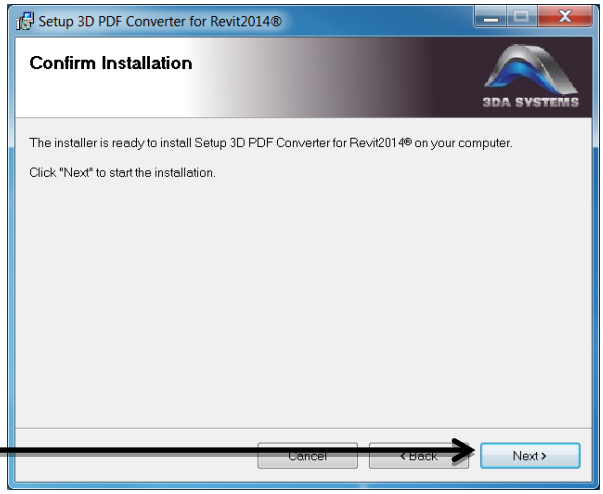
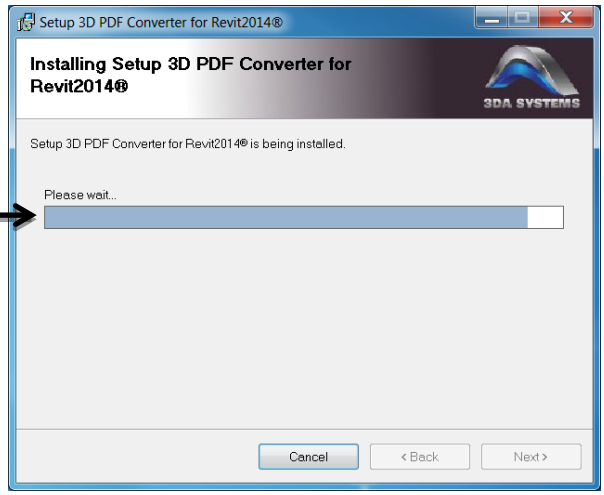
Confirm Installation

The installer is ready to install and setup 3D PDF Converter for Revit® 2014 on your computer.

Click "Next" to start the installation

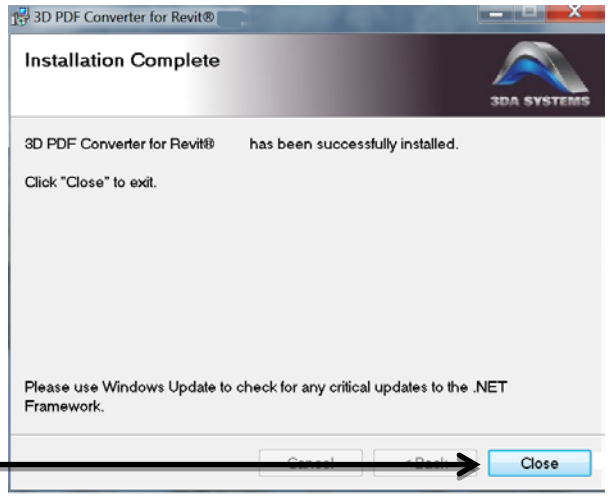

Setup 3D PDF Converter for Revit2014®
Confirm Installation
3DA SYSTEMS
The installer is ready to install Setup 3D PDF Converter for Revit2014® on your computer.
Click "Next" to start the installation.
Cancel
< Back
Next >

The progress bar will show progress while installing. It should only take a few minutes for the install.


Setup 3D PDF Converter for Revit2014®
Installing Setup 3D PDF Converter for Revit2014®
3DA SYSTEMS
Setup 3D PDF Converter for Revit2014® is being installed.
Please wait...
Cancel
< Back
Next >

Congratulations on successfully installing 3D PDF Converter for Revit® 2014!

Click "Close" to exit the Installation Window


3D PDF Converter for Revit®
Installation Complete
3DA SYSTEMS
3D PDF Converter for Revit® has been successfully installed.
Click "Close" to exit.
Please use Windows Update to check for any critical updates to the .NET Framework.
Close

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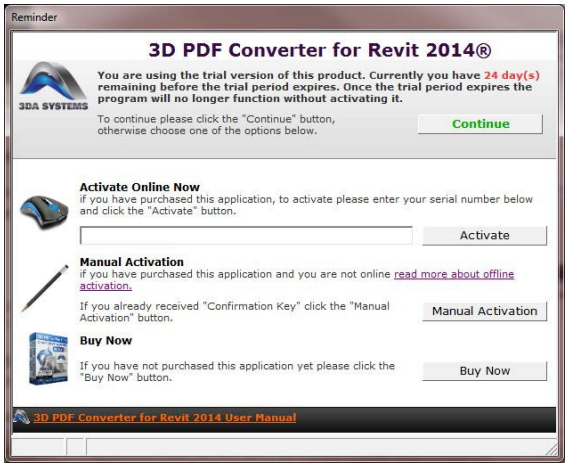
Activate Online

When you start using the converter for the first time you will be prompted with a few options. If you have purchased the software you may enter your serial number and click “Activate.”


Reminder
3D PDF Converter for Revit 2014®
3DA SYSTEMS
You are using the trial version of this product. Currently you have 24 day(s) remaining before the trial period expires. Once the trial period expires the program will no longer function without activating it.
To continue please click the "Continue" button, otherwise choose one of the options below.
Continue
Activate Online Now
if you have purchased this application, to activate please enter your serial number below and click the "Activate" button.
Activate
Manual Activation
if you have purchased this application and you are not online read more about offline activation.
If you already received "Confirmation Key" click the "Manual Activation" button.
Manual Activation
Buy Now
If you have not purchased this application yet please click the "Buy Now" button.
Buy Now
3D PDF Converter for Revit 2014 User Manual

Once this process is completed your program will open and be fully activated.

Note: The activation process requires an internet connection to our server to verify your new license. If you have no Internet connection, choose "Manual Activation."

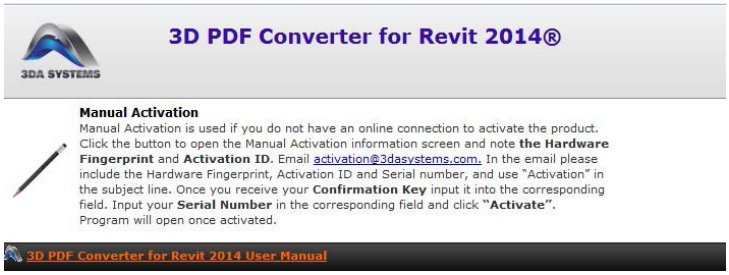
Buy Now

If you have not purchased this application yet please click “Buy Now” button.

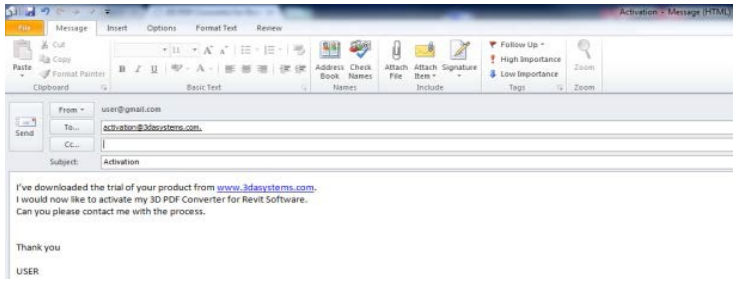
Manual Activation Process

Manual activation is required if you do not have an Internet connection to activate 3D PDF for Revit®.

To activate:
First, review the "Manual Activation" information and note your “Hardware Fingerprint” and “Activation ID”. Please ensure you have these at the time of activation process; we recommend writing down this information for use later.


3DA SYSTEMS
3D PDF Converter for Revit 2014®
Manual Activation
Manual Activation is used if you do not have an online connection to activate the product. Click the button to open the Manual Activation information screen and note the Hardware Fingerprint and Activation ID. Email activation@3dasystems.com. In the email please include the Hardware Fingerprint, Activation ID and Serial number, and use "Activation" in the subject line. Once you receive your Confirmation Key input it into the corresponding field. Input your Serial Number in the corresponding field and click "Activate". Program will open once activated.
3D PDF Converter for Revit 2014 User Manual

Next, email: activation@3dasystems.com. In your activation email please include the “The Hardware Fingerprint”, “Activation ID”, and “serial” number, and use “**Activation**” in the subject line.


Activation - Message (HTML)
Send
activation@3dasystems.com
Activation
I've downloaded the trial of your product from www.3dasystems.com.
I would now like to activate my 3D PDF Converter for Revit Software.
Can you please contact me with the process.
Thank you
USER

Once you have received your Serial Number via email, click “Activate”, and the program will open.

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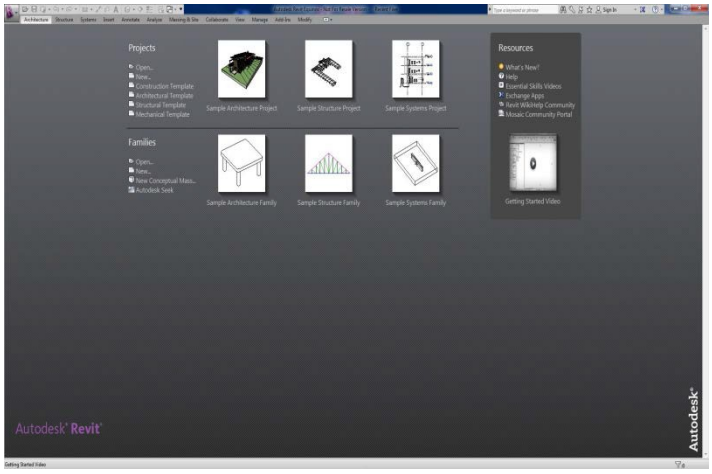
Chapter 2:

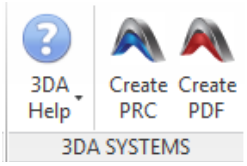
Converting with 3D PDF Converter in Revit® 2014

Open Autodesk® Revit® 2014 and select your Project.

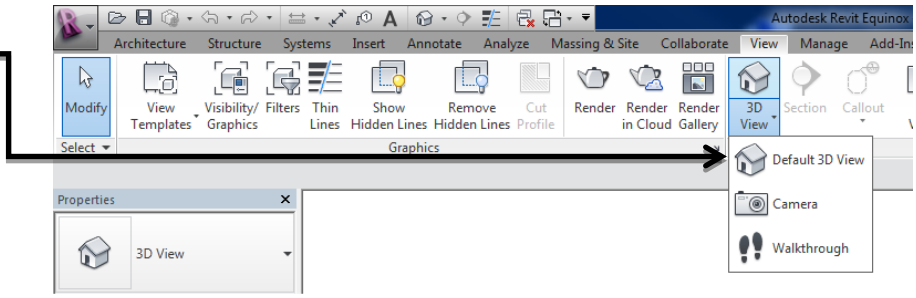


After you have loaded your project go to the default 3D view in Revit®.

To ensure the program has been installed correctly go to the Revit® Add-ins ribbon and take to make sure 3D PDF for Revit® Icons are present.



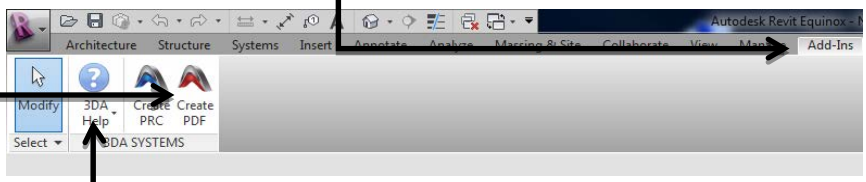
Select the "View Tab", Click "3D View" and select "Default 3D View".



Select the "Add-Ins" tab to bring up the 3D PDF Converter Capabilities.

Click "Create 3D PDF" to start converting a 3D PDF file.

Click "Help" to bring up the help menu



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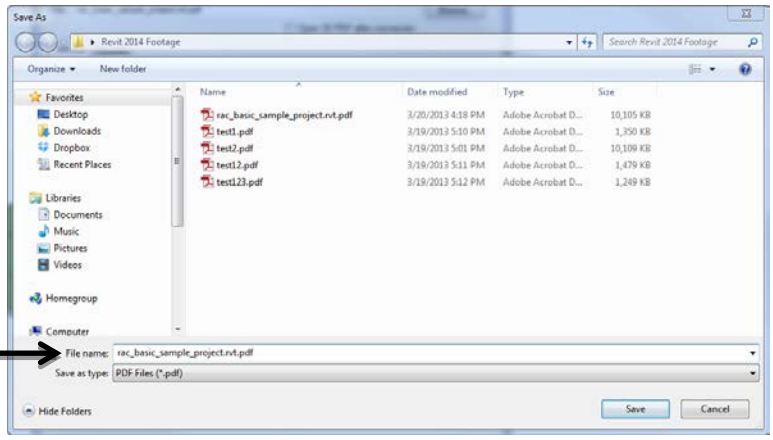
Save the File

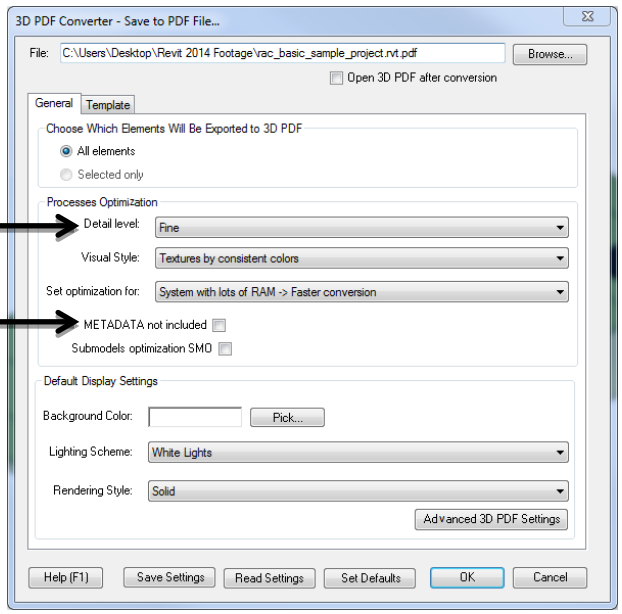
You will be prompted to save the file. Indicate the file name and save the 3D PDF file to your computer or folder of choice.



Save to File Options

A box will pop up. Select the "**General**" tab.

- "Set optimization for" your system based on the amount of RAM your system has.
- "Detail level" selects the resolution quality post conversion.
- Select "Visual Style" preference.
- Check the Sub models Optimization box to eliminate certain elements to create a smaller file size. Certain elements will not be able to be isolated
- **Uncheck** "M E T A D A T A not included" for Type Parameters to be included.



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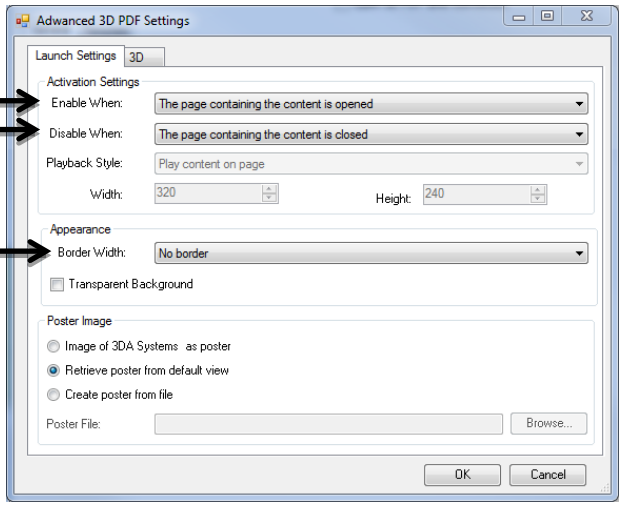
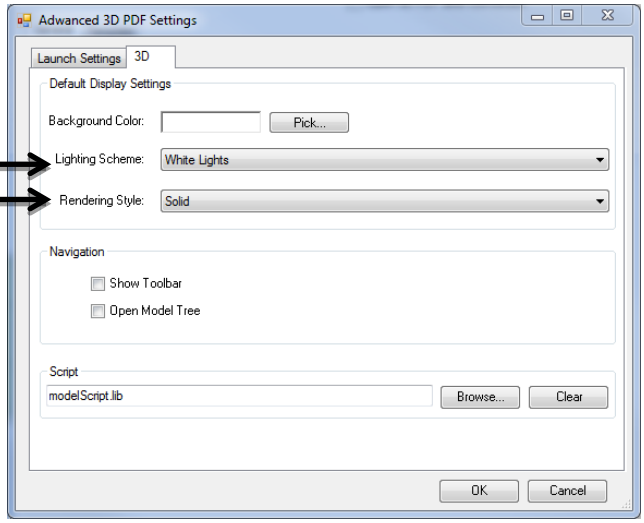
Advanced 3D PDF Settings



- "**Enable when**" – Specifies when the 3D model is activated.
- When the 3D model is enabled, you can interact with it by using the 3D navigation tools, for example.
- "**Disable when**" – Determines how the 3D model can be deactivated. When a 3D model is disabled, the 2D preview image or poster appears in the canvas.
- "**Playback Style**" – Enables you to display the 3D model in a floating window outside of the page. If you select Play Content in floating window, you can select the size of the window (in pixels) from the Height and Width menus.
- "**Border Width**" – Select to create a border around the 3D object.
- "**Transparent Background**" – Removes any background color.
- "**Poster Image**" – To replace the default view of the 3D model when it isn't activated, select a poster image option. Click Browse to find the image you want.

3D Tab

Select the "3D" tab to determine how the 3D model is presented. Unlike the settings on the other tabs, 3D settings do not affected the imported file itself.



- Select preferred "**Lighting Scheme**"
- Select preferred "**Rendering Style**"
- "**Show Toolbar**" – Displays the 3D toolbar along with the image. When this option is not selected, you can right-click the 3D image to view the 3D toolbar.
- "**Open Model Tree**" – Displays the model tree toolbar along with the image, if not selected you can view the model tree through the toolbar.
- "**Script**" – Specifies the JavaScript file that runs if a 3D model is enabled. Click Browse to add JavaScript file to the PDF

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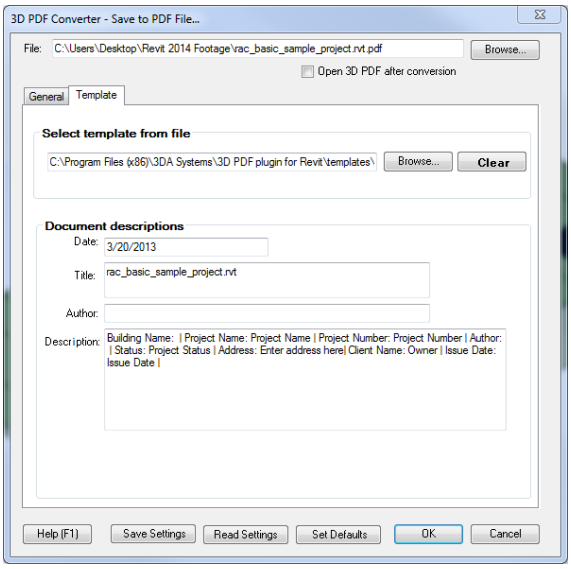
Templates

3D PDF Converter for Revit® 2014 includes a number of new features and improvements. Many of these are based on requests and feedback from our customers. Here are just a few of the things you'll discover in 3D PDF for Revit® 2014.

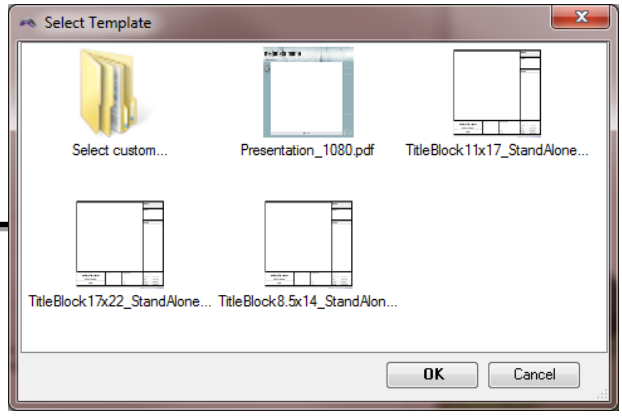
- ✓ New 3D JavaScript Enabled Title Block Style Templates*
- ✓ New 3D JavaScript Enabled Presentation Style Template*
- ✓ Add Company logos to your 3D Title Block*
- ✓ New Document Description Fields
- ✓ New Template Style Options
- ✓ New 3D Poster Image Options


3D PDF Converter - Save to PDF File...
File: C:\Users\Desktop\Revit 2014 Footage\rac_basic_sample_project.rvt.pdf
Browse...
Open 3D PDF after conversion
General
Template
Select template from file
C:\Program Files (x86)\3DA Systems\3D PDF plugin for Revit\templates\
Browse...
Clear
Document descriptions
Date: 3/20/2013
Title: rac_basic_sample_project.rvt
Author:
Description: Building Name: | Project Name: Project Name | Project Number: Project Number | Author: | Status: Project Status | Address: Enter address here| Client Name: Owner | Issue Date: Issue Date |
Help (F1)
Save Settings
Read Settings
Set Defaults
OK
Cancel

Another new option added is “Document Description” for specific detailed notes and added user notes at time of conversion.

Other new features include an updated improved integration, a new help and user guide and much more improved features for quickly creating professional title block Templates. Now, you can export your Metadata to professional templates, for easier file sharing throughout your Enterprise. In the basic version of Converter you have an option to choose one of the four templates:

- ✓ Presentation_1080
- ✓ TitleBlock8.5x2014_StandAlone
- ✓ TitleBlock11x17_StandAlone
- ✓ TitleBlock17x22_StandAlone



Note: Ensure you click “on” Open 3D PDF after conversion if you would like your 3D PDF to open automatically.

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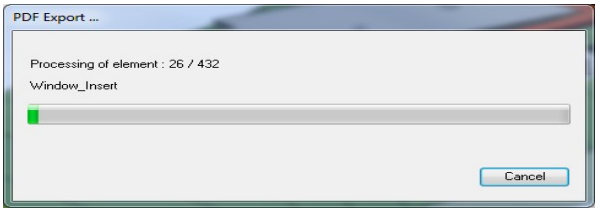
Click "OK" to begin conversion.

Processing of elements is dependent on the size of each 3D model. Note: Ensure you click "on" Open 3D PDF after conversion if you would like your 3D PDF to open automatically.



Converted 3D PDF from Revit®

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Chapter 3:

PRC

When you create a PDF from a supported 3D file, the PDF stores 3D data as either PRC or Revit® 3D (R3D) format, depending on the settings you choose.

PRC is a 3D format that lets you create different representations of a 3D model. For example, you can save only a visual representation that consists of polygons, or you can save the geometry that the model is based on. You can apply compression during conversion to decrease file size, or afterward in Acrobat® Pro Extended. By using PRC, you can create PDFs that are interoperable with Computer Aided Manufacturing (CAM) and Computer Aided Engineering (CAE) applications.

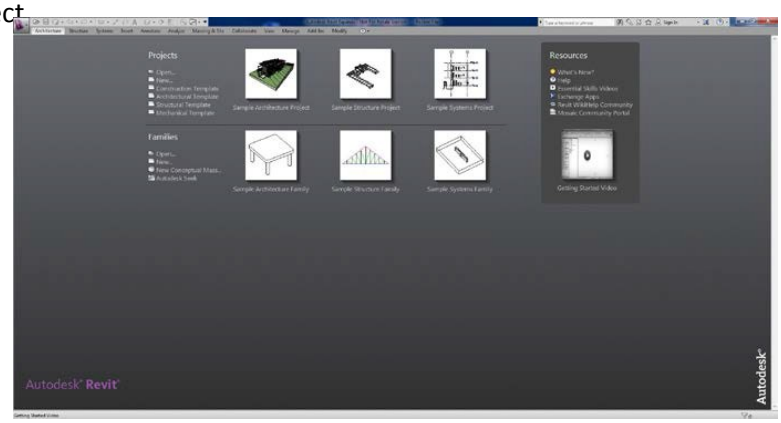
Benefits of PRC format:

Allows storage of large CAD files to PDFs that are a fraction of the original size.
Supports post-conversion compression for faster loading.

- Can represent Product Manufacturing Information (PMI), also referred to as Geometric Dimensioning and Tolerancing (GD&T) or Functional Tolerancing and Annotation (FT&A).
- Can retain geometry for reuse in CAD, CAM, and CAE applications.
- Allows you to add 3D models to 2D files. With this you input information on your template along with the 3D model for better visualization for clients.

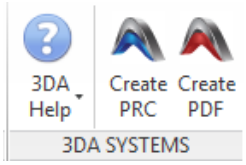
Converting to PRC

Open Autodesk® Revit® 2014 and select your Project

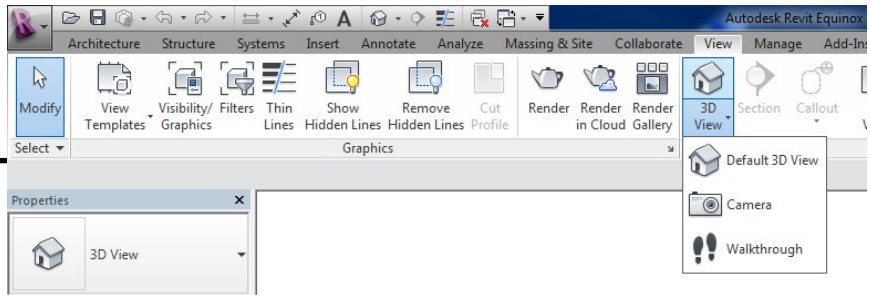


After you have loaded you project go the default 3D view in Revit®.

To ensure the program has been installed correctly go to the Add-ins ribbon and verify the 3D PDF for Revit® Icons are present.



Select the "View Tab", Click "3D View" and select "Default 3D View".



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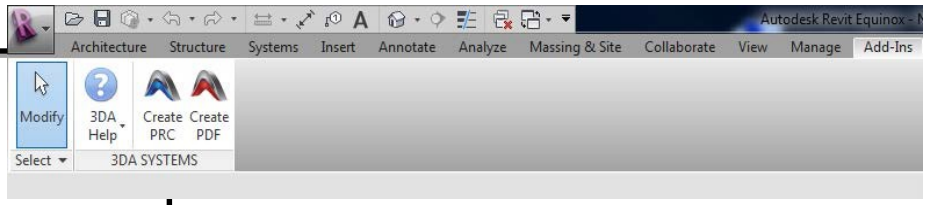
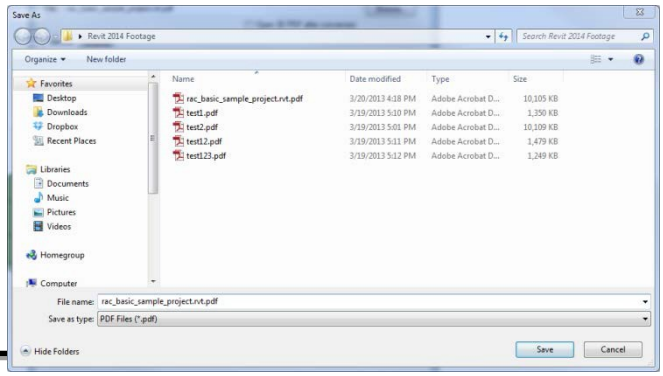
Select the "Add-Ins" tab to bring up the 3D PDF Converter Capabilities.



Click "Create PRC" to start converting a PRC file.

Save the File

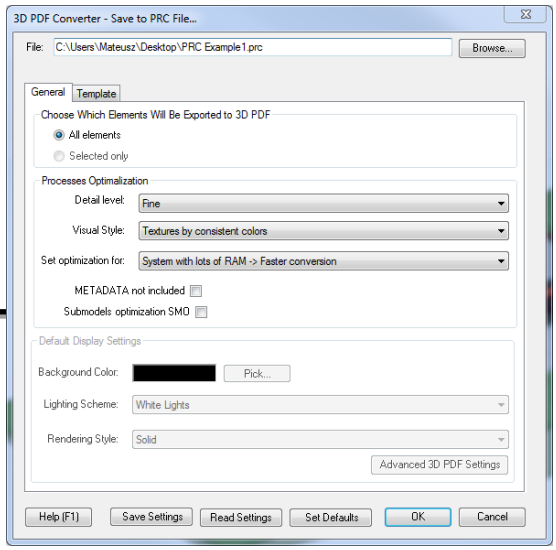
You will be prompted to save the file. Indicate the file name and save the PRC file to your computer or folder of choice.



Save to File Options

A box will pop up.

- Select the "General" tab.
- "Set optimization for" your system based on the amount of RAM your system has.
- "Detail level" selects the resolution quality post conversion.
- Check 'Submodels Optimization to eliminate certain elements to create a smaller file size. Certain elements will not be able to be isolated
- **Uncheck** the METADATA not included box for Type Parameters to be included.



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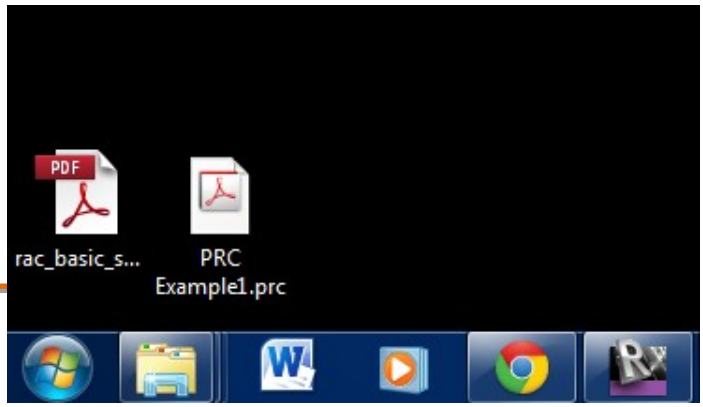
Default Display Setting is not used in "PRC" and the default screen option is greyed out.

Save the file - for this example we have saved the file to the desktop. As you can see from the image below there are some distinct differences in style of icon from "PDF" and "PRC". Now that you have saved the file and you are ready for embedding into a PDF document. Open Acrobat X or XI and choose your PDF document to embed your 3D Model into the document.



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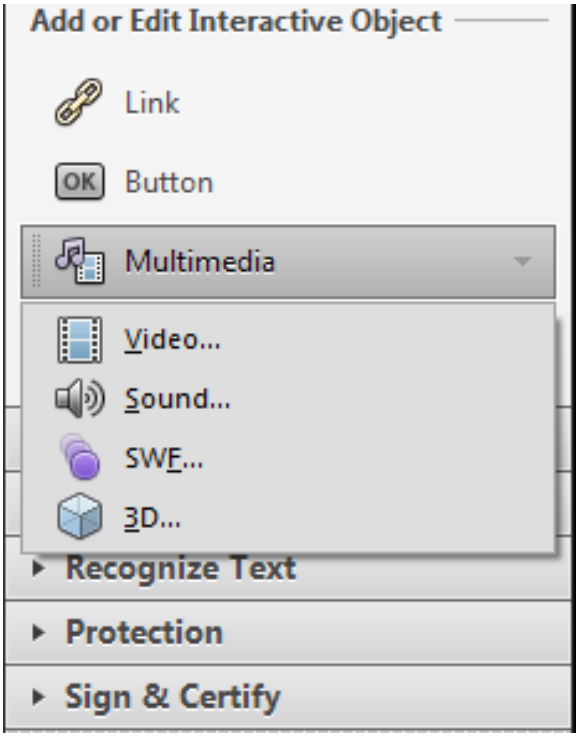
Add a 3D model to a page

- Choose Tools > Interactive Objects > Add 3D.
- Drag a rectangle on the page to define the canvas area for the 3D file.
- In the Insert 3D dialog box, click Browse to select the 3D file, and then click Open.

Note: In the Insert 3D dialog box, check the Show Advanced Options to set initial 3D Properties for the file.



Add 3D models to a PDF page (Acrobat Pro)

You can use the 3D tool to place a 3D file (PRC format) on a PDF page. After you place a 3D file, you can adjust the area or *canvas* in which the 3D model appears, edit the presentation properties for the 3D toolbar and content, and create additional views.

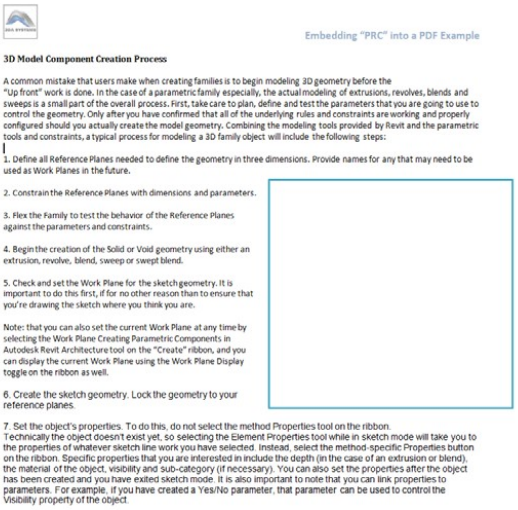
Add a 3D model to a page

- Choose Tools > Interactive Objects > Add 3D.
- Drag a rectangle on the page to define the canvas area for the 3D file.
- In the Insert 3D dialog box, click Browse to select the 3D file, and then click Open.

Move, delete, or resize the 3D canvas

- Choose Tools > Interactive Objects > Select Object.

Note: Be careful not to confuse the Select Object tool with the basic Select tool. Use the Select Object tool to adjust a 3D canvas.


Embedding "PRC" into a PDF Example

3D Model Component Creation Process

A common mistake that users make when creating families is to begin modeling 3D geometry before the "Up front" work is done. In the case of a parametric family especially, the actual modeling of extrusions, revolves, blends and sweeps is a small part of the overall process. First, take care to plan, define and test the parameters that you are going to use to control the geometry. Only after you have confirmed that all of the underlying rules and constraints are working and properly configured should you actually create the model geometry. Combining the modeling tools provided by Revit and the parametric tools and constraints, a typical process for modeling a 3D family object will include the following steps:

1. Define all Reference Planes needed to define the geometry in three dimensions. Provide names for any that may need to be used as Work Planes in the future.

2. Constrain the Reference Planes with dimensions and parameters.

3. Flex the Family to test the behavior of the Reference Planes against the parameters and constraints.

4. Begin the creation of the Solid or Void geometry using either an extrusion, revolve, blend, sweep or swept blend.

5. Check and set the Work Plane for the sketch geometry. It is important to do this first, if for no other reason than to ensure that you're drawing the sketch where you think you are.

Note: that you can also set the current Work Plane at any time by selecting the Work Plane Creating Parametric Components in Autodesk Revit Architecture tool on the "Create" ribbon, and you can display the current Work Plane using the Work Plane Display toggle on the ribbon as well.

6. Create the sketch geometry. Lock the geometry to your reference planes.

7. Set the object's properties. To do this, do not select the method Properties tool on the ribbon. Technically the object doesn't exist yet, so selecting the Element Properties tool while in sketch mode will take you to the properties of whatever sketch line work you have selected. Instead, select the method-specific Properties button on the ribbon. Specific properties that you are interested in include the depth (in the case of an extrusion or blend), the material of the object, visibility and sub-category (if necessary). You can also set the properties after the object has been created and you have exited sketch mode. It is also important to note that you can link properties to parameters. For example, if you have created a Yes/No parameter, that parameter can be used to control the Visibility property of the object.

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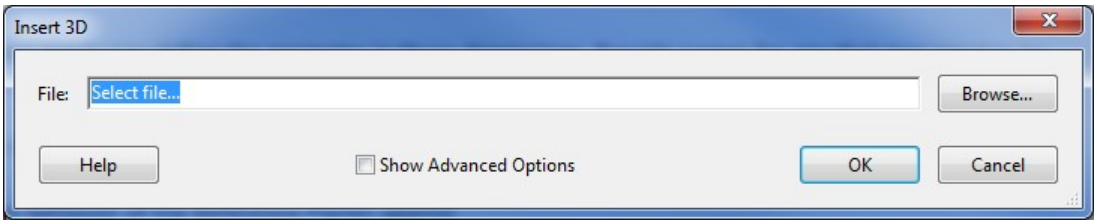
Select the 3D canvas and change it as needed:

- To move the canvas, drag it to a new location on the page.
- To resize the canvas, drag the frame corners. The 3D content stays proportional within the adjusted frame.

Select File - click Browse to select the 3D file, and then click Open.



3D properties (Acrobat Pro)
View 3D properties by using the Select Object Tool (Tools > Interactive Objects > Select Object) to double-click within an activated model.

3D tab
The options on the 3D tab determine how the 3D model is presented. Unlike the settings on the other tabs, 3D settings do not affect the imported file itself.

Embedding "PRC" into a PDF Example

3D Model Component Creation Process

A common mistake that users make when creating families is to begin modeling 3D geometry before the "Up front" work is done. In the case of a parametric family especially, the actual modeling of extrusions, revolves, blends and sweeps is a small part of the overall process. First, take care to plan, define and test the parameters that you are going to use to control the geometry. Only after you have confirmed that all of the underlying rules and constraints are working and properly configured should you actually create the model geometry. Combining the modeling tools provided by Revit and the parametric tools and constraints, a typical process for modeling a 3D family object will include the following steps:

1. Define all Reference Planes needed to define the geometry in three dimensions. Provide names for any that may need to be used as Work Planes in the future.

2. Constrain the Reference Planes with dimensions and parameters.

3. Flex the Family to test the behavior of the Reference Planes against the parameters and constraints.

4. Begin the creation of the Solid or Void geometry using either an extrusion, revolve, blend, sweep or swept blend.

5. Check and set the Work Plane for the sketch geometry. It is important to do this first, if for no other reason than to ensure that you're drawing the sketch where you think you are.

Note: that you can also set the current Work Plane at any time by selecting the Work Plane Creating Parametric Components in Autodesk Revit Architecture tool on the "Create" ribbon, and you can display the current Work Plane using the Work Plane Display toggle on the ribbon as well.

6. Create the sketch geometry. Lock the geometry to your reference planes.

The options on the 3D tab are the same as the options on the 3D toolbar except for the following:

Animation Style For models created with animation, this setting determines how the animation runs in Acrobat.

Add Default Views Allows you to use different model views. An *orthographic projection* (ortho) effectively removes a dimension, preserving the size ratio between objects but giving the 3D model a less realistic appearance. Orthographic projection is especially useful for viewing certain diagrams, such as 3D mathematical functions plotted on a graph. A *perspective projection* offers a more realistic scene in which objects in the distance appear smaller than objects of the same size in the foreground.

Show Toolbar Displays the 3D toolbar along with the image. When this option is not selected, you can right-click the 3D image to view the 3D toolbar.

Open model tree displays the model tree on the Model Tree pane. The Model Tree has three panes. Each pane displays a specific type of information or controls.

Note: Chapter 6 describes further into the features of the Multimedia section of Acrobat Pro. Please refer to this section or visit the supplied URL below.

More: [Adding 3D models to PDF (Acrobat Pro)]

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Chapter 4:

Navigating the Toolbar

In 3D PDF for Revit®, you can view and interact with high-quality 3D content created in professional 3D CAD or 3D modeling programs and embedded in PDFs. For example, you can hide and show parts of a 3D model, remove a cover to look inside, and turn parts around as if holding them in your hands.

A 3D model initially appears as a two-dimensional preview image. Clicking the 3D model with the Hand or Select tool enables (or activates) the model, opens the 3D toolbar, and plays any animation.

Adobe Tool Bar

Rotate - Turns 3D objects around relative to the screen. How the objects move depends on the starting view, where you start dragging, and the direction in which you drag.

Spin - Turns a 3D model in parallel to two fixed axes in the 3D model, the x axis and the z axis.

Pan - Moves the model vertically and horizontally only. You can also pan with the Hand tool: Ctrl-drag.

Zoom - Moves you toward, or away from, objects in the scene when you drag vertically. You can also zoom with the Hand tool by holding down Shift as you drag.

Fly - Navigates through a model while maintaining the surface orientation. Right-click and drag inside the 3D window. The Fly tool moves more slowly the closer you move toward an object. Drag the mouse pointer right or left to turn.

To rotate the camera view, click the left mouse button inside the 3D window and drag to turn the camera view. To return to the starting camera direction, move the mouse back to the initial click point.

Use the mouse scroll wheel to move rapidly backward and forward along the camera view direction. This is useful if you get lost within a model or fly into the surface.

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Camera Properties - *Defines the camera angle, alignment, and other properties that* define the lens through which a 3D model is viewed. Camera properties are components of views but are set independently.

1. Move the Camera Properties dialog box so that you can see the 3D model. Select a camera alignment:

- **Select Target** to align the camera properties only to the target position
- **Select Camera** and Target to align the camera properties to both the camera direction and the target position.

2. Select the type of alignment:

- **Select Model -** After you select this option, click a 3D model in the document. The Camera Properties dialog box shows the current camera position.
  - If Target is selected, the new position of the camera target is the center of the selected model.
  - If Camera and Target is selected, the position of the camera target is the center of the selected model. The camera is aligned to the selected model.

- **Select Face -** After you select this option, click a face of the 3D model in the document. The Camera Properties dialog box shows the current camera position.
  - If Target is selected, the new position of the camera target is the center of the selected face.
  - If Camera and Target is selected, the position of the camera target is the center of the selected face. The camera is aligned to this face.

- **Select 3 Points -** After you select this option, select three points on the same or different models in the document. The Camera Properties dialog box shows the current camera position.
  - If Target is selected, the new position of the camera target is the center of the three selected points.
  - If Camera and Target is selected, the camera target is the center of the three selected points. The camera position is aligned to the plan composed by the three selected points.

3. In the **Position** section, select Angle Units to change the X, Y, and Z values to Azimuth, Altitude, and Distance. These values enable you to manipulate the camera by azimuth (distance) and altitude (X axis), and to zoom using the distance value.

4. Move the sliders in the Camera and Target positions to the desired location.

5. To change the focal angle of the camera, drag the Field Of View slider to the desired degree.

6. To change the roll angle of the camera, drag the Roll slider to the desired degree.

7. Click Save Camera View to save the settings and add the view to the Model Tree.

The view is added to the Model Tree with the default name of Camera View[n], with [n] being an incremental number. You can rename the camera view in the Views list.

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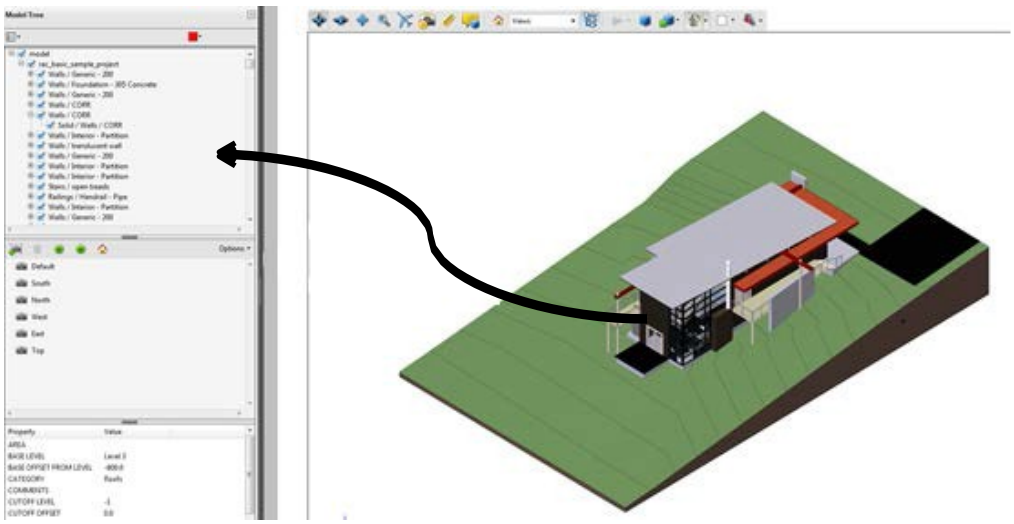
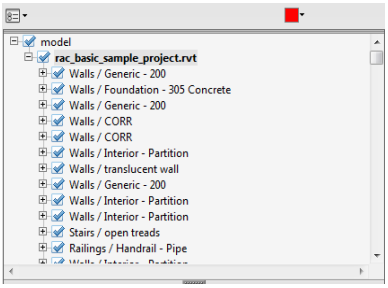
Toggle Model Tree - The Model Tree appears in the navigation pane on the left side of the work area. You can also open the Model Tree by clicking the Toggle Model Tree button on the 3D toolbar. Or, right-click the 3D model and choose Show Model Tree.



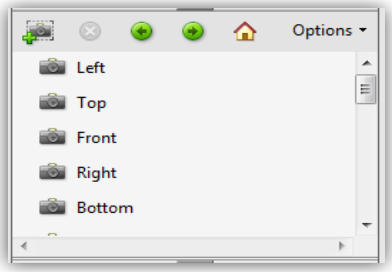
The Model Tree has three panes, each of which displays a specific type of information or controls.

- Structure pane.
  The topmost pane shows the tree structure of the 3D object. For example, a 3D object depicting a car has separate groups of objects (called *nodes*) for the chassis, engine, and wheels. In this pane, you can move through the hierarchy and select, isolate, or hide various parts.

  
  model
rac_basic_sample_project.rvt
Walls / Generic - 200
Walls / Foundation - 305 Concrete
Walls / Generic - 200
Walls / CORR
Walls / CORR
Walls / Interior - Partition
Walls / translucent wall
Walls / Generic - 200
Walls / Interior - Partition
Walls / Interior - Partition
Stairs / open treads
Railings / Handrail - Pipe

  Product Manufacturing Information (PMI) appears as a group of items on the same hierarchical level as its related object or assembly.

- View pane
  The middle pane lists the views that have been defined for the 3D object. When you change a view, click one of the listed views to return the 3D model to a saved state.

Use Perspective Projection – Turning off **Use perspective Projection** will allow you to zoom into an exterior portion of the model but not pass through the model. When turned on and zooming in, you will move through exterior elements and see internal elements of the model.

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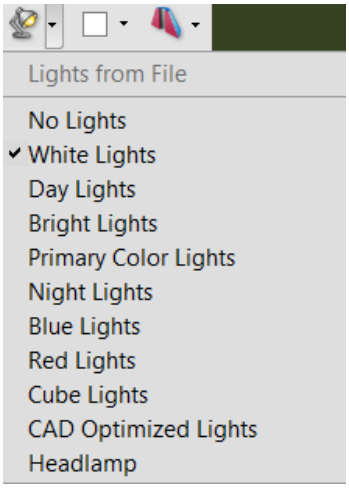
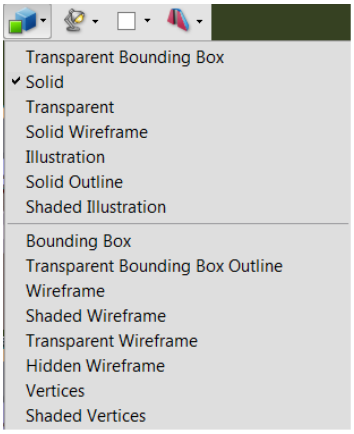
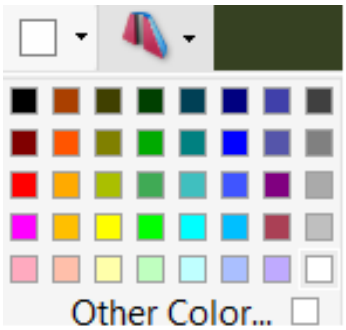
Model Render Mode – Changes the surface appearance of the entire 3D model according to the item you choose from the submenu:



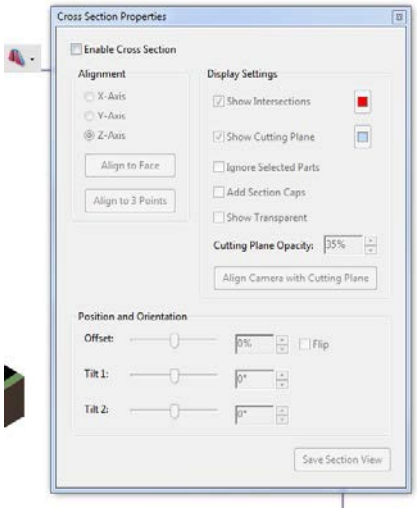
Enable extra lighting



Background color



Toggle cross section – Creates a cross section on either of X, Y or Z axis to allow easier viewing for the elements inside the design



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Adobe Reader Controls

3D Measurement Tool

3D Snap to edge endpoints

3D Snap to linear edges

3D Snap to radial edges

3D Snap to Silhouettes

3D Snap to planar Faces

3D point-to-point Measurement

3D Perpendicular dimension

3D Radial dimension

3D Angle measurement

Add 3D Comment - Add comments to the PDF, and view those comments is specific designated views

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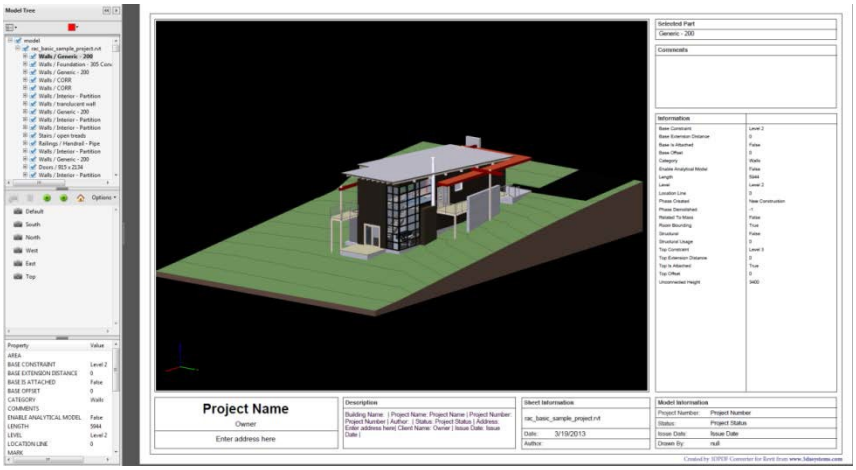
Chapter 5:

Template Examples

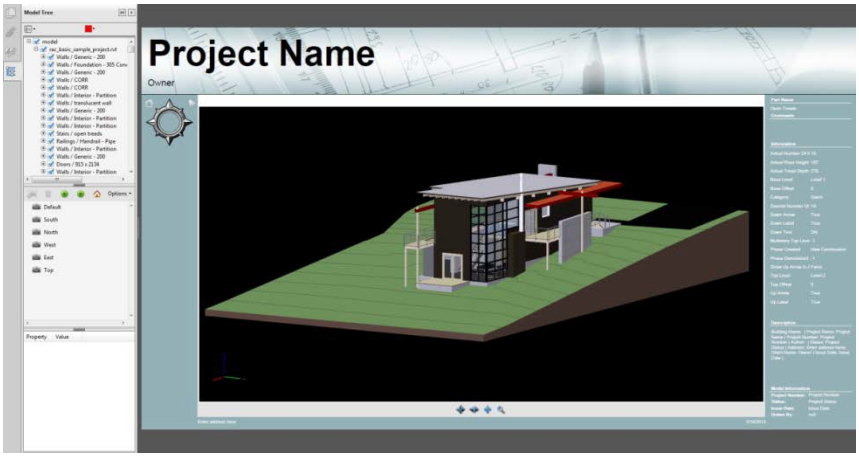
3D PDF Converter is a template-based 3D PDF publishing application. Templates defined the page design and determine where text, images and interactive controls are positioned on the document page. They are highly customizable allowing users to rapidly modify the text, images and more within a 3D PDF.

3D PDF for Revit® comes installed with high-quality templates. Templates are designed to allow 3D users to rapidly create presentations, Title Block Sheets, engineering drawings, document inserts, full-screen, reviews, demonstrations and more.

Title Block example



Presentation example



Custom Templates with 3D

3DA Systems Custom Templates can be designed to suit all company profiles and to work in conjunction with 3D PDF Converter for Revit® to create custom templates for all professional uses. With 3D PDF for Revit® installed on all workstation, productivity can be maximized by rapidly sharing 3D models with co-workers, partners and customers using a personalized company defined layout. Contact us by phone or email for a customized solution that meets your budget.

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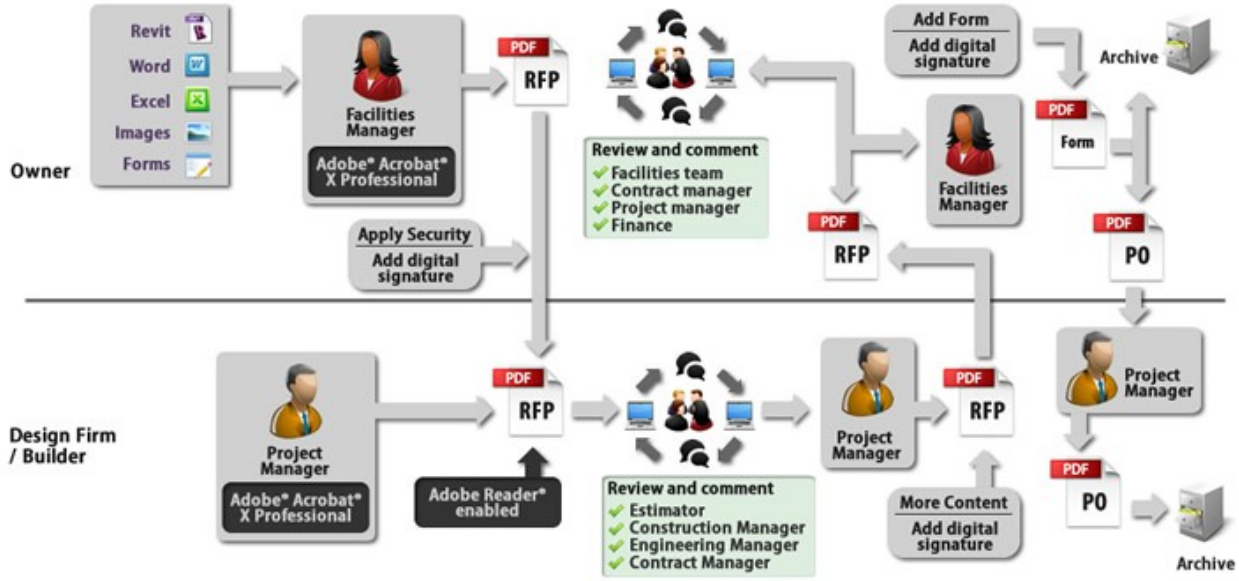
3D PDF Workflow: Business Solutions



Reasons to Use 3D PDF and Adobe Acrobat XI Pro

Design, distribute, and discuss

Sharing your 3D designs is just as essential as creating the design in the first place. So when you're ready to distribute and discuss your 3D designs with others, PDF is the ideal format.

Interactive 3D PDF files look like the original 3D design, and can be viewed within the application used to create the original 3D design or the environment in which it's viewed. This enables improved communication and faster decision making, which helps reduce design errors, improve quality, and increase productivity.

Other benefits of 3D PDF Converter

- Enables extended team members to interactively navigate, view 3D PDF files without purchasing specialized software
- Streamlines the review, mark-up, and comment processes
- Facilitates more secure, reliable document exchange
- Improves the efficiency and accuracy of every review cycle
- Enables extended team members to navigate, view and print Adobe PDF files

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Chapter 6:

Add Multimedia to your PDF Files (Acrobat Pro)

Adding video, sound, and interactive content transforms PDFs into multidimensional communication tools that increase interest and engagement in your documents.

Acrobat XI Pro automatically converts video to FLV files. This format ensures both high-quality viewing and compatibility across computer platforms. FLV files are also compact, so converting multimedia to this format is helps reduce the size of multimedia PDFs.

All multimedia that is developed in Flash® as well as multimedia that is H.264 compliant can be played back in Adobe Reader® 9 and later. (H.264, also known as MPEG-4 part 10, is a video compression standard that provides high quality video without substantially increasing file size.) Video files of varying formats and filename extensions can be H.264 compliant.

Media files in other formats can be played back in earlier versions of Adobe Reader. However, users must install the appropriate application (such as QuickTime or Windows Media Player) to play the multimedia.

Another way to add multimedia is by entering a URL that refers to a video file or streaming media. Three types of URLs can be used: RTMP, HTTP, and HTTPS. Flash Media Servers use RTMP to host FLV files and H.264-compliant media files. On HTTP and HTTPS servers, FLV files and H.264-compliant MOV and MP4 files are supported.

Interactive content developed in Flash and produced as SWF files (.swf) can be added to PDFs to provide complimentary tools for text. Examples of applications developed in Flash include an RSS Reader, calculator, and online maps. For more information about the interactive applications that you can download from Adobe, see www.adobe.com/go/learn_acr_interactive_en.

Note: FLV files and H.264-compliant MP4 and MOV files are supported with Flash Media Server 3.0.1. Earlier versions of Flash Media Server support FLV files only.
More: http://help.adobe.com/en_US/acrobat/using/WS62d861336721011263ac399c138c596fc25- 7fff.html

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Add 3D models (PRC format) to a PDF page (Acrobat X, XI Pro)

Use the 3D tool to place a 3D file in PRC format on a PDF page. After you insert a 3D file, you can adjust the area or *canvas* in which the 3D model appears, edit the presentation properties for the 3D toolbar and content, and create additional views.

Add a 3D model to a page

1. Choose Tools > Interactive Objects > Add 3D.
2. Drag a rectangle on the page to define the canvas area for the 3D file.
3. In the **Insert 3D** dialog box, click Browse to select the 3D file, and then click Open.

Note: In the Insert 3D dialog box, check the Show Advanced Options to set initial 3D Properties for the file.

Move, delete, or resize the 3D canvas

1. Choose Tools > Interactive Objects > Select Object.

   Note: Be careful not to confuse the **Select Object** tool with the basic **Select** tool. Use the Select Object tool to adjust a 3D canvas.

2. Select the 3D canvas and change it as needed:
   - To move the canvas, drag the canvas to a new location on the page.
   - To delete the canvas (and the 3D model), select it and press Delete.
   - To resize the canvas, drag the frame corners. The 3D content stays proportional within the adjusted frame.

3D properties (Acrobat X, XI Pro)

View **3D Properties** by using the Select Object Tool (Tools > Interactive Objects > Select Object) to double-click within an activated model.

3D tab

The options on the 3D tab determine how the 3D model is presented. Unlike the settings on the other tabs, 3D settings do not affect the imported file itself.

The options on the 3D tab are the same as the options on the 3D toolbar except for the following: **Animation**

Style

For models created with animation, this setting determines how the animation runs in Acrobat.

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Add Default Views

Allows you to use different model views. An *orthographic projection* (ortho) effectively removes a dimension, preserving the size ratio between objects but giving the 3D model a less realistic appearance. Orthographic projection is especially useful for viewing certain diagrams, such as 3D mathematical functions plotted on a graph. A *perspective projection* offers a more realistic scene in which objects in the distance appear smaller than objects of the same size in the foreground.

Show Toolbar

Displays the 3D toolbar along with the image. When this option is not selected, you can right- click the 3D image to view the 3D toolbar.

Open model tree

Displays the model tree on the Model Tree pane. The Model Tree has three panes. Each pane displays a specific type of information or controls.

Script

Specifies the JavaScript file that runs if a 3D model is enabled. Click Browse to add a JavaScript file to the PDF.

Launch Settings

Enable When specifies when the 3D model is activated. When the 3D model is enabled, you can interact with it by using the 3D navigation tools, for example.

Disable When determines how the 3D model can be deactivated. When a 3D model is disabled, the 2D preview image or poster appears in the canvas.

Playback Style enables you to display the 3D model in a floating window outside the page. If you select Play Content In Floating Window, you can select the size of the window (in pixels) from the Height and Width menus.

Border Width creates a border around the 3D object.

Transparent Background removes any background color.

Poster Image - To replace the default view of the 3D model when it isn't activated, select a poster image option. Click Browse to find the image you want.

More: http://help.adobe.com/en_US/acrobat/using/WS58a04a822e3e50102bd615109794195ff- 7bfe.w.html

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Measurement Types options in the 3D Measurement Tool palette

3D Point To Point Measurement

Measures the distance between two positions on the 3D model. Click to set a start point, and then click another location to set an end point or edge.

3D Perpendicular Dimension

Measures the distance between two edges taken at a right angle to the starting edge.

3D Radial Dimension

Measures the radius at the location clicked.

3D Angle Measurement

Measures the angle between two edges.

Units and markup options

To use the **Units and Markup** measurement tools, select the 3D Measurement Tool, and then right-click inside the model.

Define Model Units- Select to change the measurement units.

Enable Coordinate Display- Displays or hides the coordinates of the mouse pointer location in the Measurement Info Window.

Change Markup Label- Type the text you want to appear with the measurement, both in the 3D model area and in the Comments panel. (Not available if Measurement Markup is not selected.)

Disable Measurement Markup- Select when you want to take measurements in a model, but not add them to the document. The measurements are only visible while the current measurement is active. If you start another measurement or change tools, the markup disappears.

Don't Snap To 3D Content- Disables the ability to snap the insertion point to a likely target. Select this option to improve performance when you are working with a large model. Return to **Snap To 3D Content** to ensure precise measurement in 3D objects.

3D Measurement Navigation Tips- Opens a dialog box that lists the keyboard shortcuts for several navigation shorts. You can use these shortcuts while you are measuring.

Preferences- Opens the Measuring (3D) Preferences dialog box.

Hide/Show Measurement Info Window- The Measurement Info Window displays the Units And Markup settings for the model. Select to remove the window from the model window.

Hide/Show Measurement Toolbar- Removes/displays the 3D Measurement Tool palette.

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Measuring preferences

Change the 3D Measuring preferences to determine how 3D data is measured. These options appear in the Measuring (3D) panel of the Preferences dialog box.

Note: In Adobe Reader, these preferences apply to PDFs that have commenting enabled.

Use Scales And Units From Model (When Present)- Displays measurements based on the model units, if present, generated from the original 3D model. Deselect this option to specify the units of measurements manually. This setting can be changed in the 3D Measurement Tool palette.

Use Default Display Unit- Uses units of measurement that you specify here rather than the measurement units in the 3D model.

Significant Digits to Display- Specifies the maximum number of digits in the measurement number.

3D Measuring Line Color- Specifies the color of the line that appears when you click or drag to measure an object.

Measure Feedback Size- Sets the text size for the measurement display. Angular

Measurements Shown In- Specifies units as either degrees or radians.

Circular Measurements Shown As- Designates whether the diameter or radius is measured for circular parts.

Show Circle for Radial Measurements- Displays the circumference associated with the radial measurement.

3D Snap Settings- Turns on snap and specifies whether points, arcs, edges, silhouette edges, or faces are snapped to. Sensitivity indicates how close the pointer must be to the item being snapped to. For Snap Hint Color, specify the color of the snap line that appears when you hold the pointer over the 3D object.

More: http://help.adobe.com/en_US/acrobat/using/WS62d861336721011263ac399c138c596fc25-7ffe.html#WS02E25D38-E72E-44d2-9F63-A1750EE9D5C4

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